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USSR SCIENTIFIC AND TECHNICAL SEMINARS
ON AUTOMATIC CONTROL THEORY AND ENGINEERING

I. M. Rusevich

In order to acquaint large numbers of scientific and engineering personnel with new accomplishments in the field of automatic control, the All-Union Scientific and Technical Society of Instrument Building together with the Institute of Automatics and Telemekhanics, Academy of Sciences USSR, held two scientific and technical seminars from 3 to 22 December 1951. One seminar was on automatic control theory, and the other, on automatic process control engineering. The former was led by Professor V. V. Solodovnikov, Doctor of Technical Sciences, and the latter, by A. Ya. Lerner, Candidate of Technical Sciences. The programs set up for these seminars included 31 subjects on automatic control theory and 25 subjects on automatic control engineering. The seminars lasted 10-12 days each.

The following specialists attended the seminars in order to read papers and make abstracts of papers: Professor Solodovnikov; Professor B. N. Petrov, Doctor of Technical Sciences; Professor V. L. Lossiyevskiy, Doctor of Technical Sciences; Professor L. S. Gol'dfarb, Doctor of Technical Sciences; Professor K. S. Bobov, Doctor of Technical Sciences; Professor Ya. Z. Tsypkin, Doctor of Technical Sciences; M. A. Ayzerman, Doctor of Technical Sciences; A. M. Letov, Doctor of Physico-Mathematical Sciences; M. V. Meyerov, Doctor of Technical Sciences; A. A. Voronov, Candidate of Technical Sciences; B. Ya. Sotkin, Candidate of Technical Sciences.

Also, A. Ya. Lerner, Candidate of Technical Sciences; B. Ya. Kogan, Candidate of Technical Sciences and Stalin Prize winner; D. V. Mironov, Candidate of Technical Sciences and Stalin Prize Winner; G. M. Ulanov, Candidate of Technical Sciences; V. V. Petrov, Candidate of Technical Sciences; F. A. Mikhaylov, Candidate of Technical Sciences; A. A. Krasovskiy, Candidate of Technical Sciences; V. V. Kazakevich, Doctor of Technical Sciences; V. Yu. Kaganov, Candidate of Technical Sciences; S. F. Chistyakov, Candidate of Technical Sciences; Ye. A. Rozenman, Candidate of Technical Sciences; Engineer M. I. Vizgunov; Engineer N. Ya. Festa; and Engineer A. L. Malyy.

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The papers read at the seminars covered various subjects in automatic control theory and engineering with consideration for the most recent data obtained in the given field within the following subdivisions:

Automatic Control Theory

1. Basic concepts, definitions, historical development, and supplementary information.
2. Stability of automatic control systems.
3. Analysis of quality and synthesis of automatic control systems for typical operations.
4. Analysis and synthesis of automatic control for continuously changing operations.
5. Elements of the theory of nonlinear and impulse automatic control systems.

Automatic Control Engineering

1. Principles of automatic control theory.
2. Elements of automatic regulators.
3. Typical automatic regulators.
4. Simulation and development of automatic control systems.
5. Automatic control of production processes.

There is still no major work in Soviet technical literature which sums up the development of automatic control theory, particularly its recent accomplishments, and surveys the present status and trends in the development of automatic control engineering. The publication of papers read at the seminars will fill this gap to a certain degree and also provide those attending with the necessary manuals. The sponsors of the seminars have therefore undertaken the publication of abstracts of the lectures in the form of two lithographed symposia. One of these ("Automatic Control Theory") was published before the seminars began and was sent to all participants. Because of the limited time available, the second symposium ("Automatic Control of Production Processes") was not published when the seminar was held but was sent to the participants later. At present, these symposia are being revised and in early 1953 Mashgiz will publish the book "Automatic Control Theory and Engineering" under the general editorship of Solodovnikov.

The lectures of both seminars made it possible for a number of production engineers, workers of scientific research institutes, and personnel of higher technical educational institutions to become familiar with the main achievements of Soviet science and engineering in the field of automatic control. Further, the lectures made it possible for them to systematize their knowledge and supplement it with up-to-date information on the subject. Great interest was demonstrated in the seminars by scientific and engineering workers of the leading branches of industry (metallurgy, power, machine and instrument building, chemistry, etc.)

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At the seminar on automatic control theory, 130 persons sent by 52 institutions of various ministries and offices participated; 124 persons representing 73 institutions attended the seminar on automatic control of production processes. The education and experience of those who attended is characterized by the following data: 95% had higher educations, 5% had secondary educations; 40% had more than 10 years of production experience, and 60% had less than 10 years.

The All-Union Scientific and Technical Society of Instrument Building and the Institute of Automatics and Telemechanics received many favorable comments on the seminars, both oral and written. Some organizations (e.g., the Kievenoergo and Donets Order of the Labor Red Banner Industrial Institute) also pointed out defects, namely, the absence of practical work under laboratory or production conditions to become familiar with the operation of new automatic control equipment, and the fact that those attending were not divided into groups to correspond with their training and specialization. All who made comments recommended that the practice of holding such seminars be continued.

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